LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please reconsider the claims as follows:

CLAIMS

1. (previously presented) A method for generating a composite EM field to carry a signal to at least two terminals, the method comprising the step of directing energy in a plurality of directions, the amount of energy directed in the direction of each of the terminals being a function of the locations and acceptable receive strengths of at least two of the terminals, wherein the direction is an azimuth direction, wherein an acceptable receive strength for a terminal comprises an electromagnetic (EM) field strength at least as large as, but not significantly larger than, the EM field strengths needed for that terminal to receive the signal carried by the EM field; wherein

the directing step comprises the steps of:

determining for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat, the determining taking into account the strength, at the location of the one terminal, of EM fields previously determined for others of the terminals;

repeating the first determining step until the EM fields determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength; and

determining the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined.

2. (cancelled).

3. (cancelled)

4. (previously presented) The method of claim 1, wherein:

each EM field being represented by one of a plurality of beam-patterns;

the first determining step comprises determining for each one of the terminals a beam pattern that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat, the determining taking into account the EM field strength, at the location of the one terminal, of beam-patterns previously determined for others of the terminals; and

the repeating step comprises repeating the first determining step until the beam-patterns determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength.

5. (original) The method of claim 4, wherein:

the beam-patterns being voltage beam patterns;

the acceptable receive strength being an acceptable receive voltage; and

the adequate receive strength being an adequate receive voltage.

6. (original) The method of claim 4, wherein one of a plurality of weight vectors corresponds to each of the beam-patterns, and the second determining step comprises the steps of:

determining a composite weight vector using the plurality of weight vectors, and a null-filling factor;

determining a composite beam-pattern using the composite weight vector, the composite beam-pattern representing the composite EM field; and

determining the amount of energy to be directed in the direction of each of the terminals based on the composite EM field.

7. (previously presented) A method for generating a composite EM field to carry a signal to at least two terminals, the method comprising the step of directing energy in a plurality of directions, the amount of energy directed in the direction of each of the terminals being a function of the locations and acceptable receive strengths of at least two of the terminals, wherein the direction is an azimuth direction, wherein an acceptable receive strength for a terminal comprises an electromagnetic (EM) field strength at least as large as,

but not significantly larger than, the EM field strengths needed for that terminal to receive the signal carried by the EM field;

wherein the directing step comprises the steps of:

determining for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat if that one terminal was the only terminal that needed to receive the signal;

determining a scaling factor for each EM field such that each EM field, associated with the at least two terminals, scaled by its scaling factor provides an EM field strength at the location of each of these at least two terminals that is substantially equal to its adequate receive strength;

scaling each EM field, associated with the at least two terminals, by its scaling factor; and

determining the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined.

8. (canceled)

9. (original) The method of claim 1, further comprising the step of transmitting the energy.

10. (previously presented) A transmitter operable to generate a composite EM field to carry a signal to at least two terminals by directing energy in a plurality of directions, the amount of energy directed in the direction of each of the terminals being a function of the locations and acceptable receive strengths of at least two of the terminals, wherein the direction is an azimuth direction, wherein an acceptable receive strength for a terminal comprises an electromagnetic (EM) field strength at least as large as, but not significantly larger than, the EM field strengths needed for that terminal to receive the signal carried by the EM field;

the transmitter further comprising a processor having a first mode of operation to:

determine for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat, the

determining taking into account the strength, at the location of the one terminal, of EM fields previously determined for others of the terminals;

repeat the first determining until the EM fields determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength; and

determine the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined.

11. (cancelled).

12. (cancelled)

13. (previously presented) The transmitter of claim 10, wherein:

each EM field being represented by one of a plurality of beam-patterns;

the first determining comprises determining for each one of the terminals a beam pattern that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat, the determining taking into account the EM field strength, at the location of the one terminal, of beam-patterns previously determined for others of the terminals; and

the repeating comprises repeating the first determining until the beam-patterns determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength.

14. (original) The transmitter of claim 13, wherein:

the beam-patterns being voltage beam patterns;

the acceptable receive strength being an acceptable receive voltage; and

the adequate receive strength being an adequate receive voltage.

15. (original) The transmitter of claim 13, wherein one of a plurality of weight vectors corresponds to each of the beam-patterns, and the second determining comprises:

determining a composite weight vector using the plurality of weight vectors, and a null-filling factor;

determining a composite beam-pattern using the composite weight vector, the composite beam-pattern representing the composite EM field; and

determining the amount of energy to be directed in the direction of each of the terminals based on the composite EM field.

16. (previously presented) The transmitter of claim 10, wherein the processor operates in only one of the first mode of operation and a second mode of operation, in the second mode of operation the processor operable to:

determine for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat if that one terminal was the only terminal that needed to receive the signal;

determine a scaling factor for each EM field such that each EM field, associated with the at least two terminals, scaled by its scaling factor provides an EM field strength at the location of each of these at least two terminals that is substantially equal to its adequate receive strength;

scale each EM field, associated with the at least two terminals, by its scaling factor; and

determine the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined.

17. (canceled)

18. (currently amended) ~~An~~ A system comprising a transmitter operable to generate a composite electromagnetic (EM) ~~EM~~ field to carry a signal to at least two terminals by directing ~~energy in a plurality of directions, the amount of energy directed in the direction of~~ energy of respective primary EM fields along azimuthal directions to each of the terminals, the energy of the primary EM field directed to each terminal being a function of the locations and acceptable receive strengths of at least two of the terminals, ~~wherein the direction is an azimuth direction,~~ wherein an acceptable receive strength for a terminal comprises an ~~electromagnetic (EM)~~ EM field strength at least as large as, but not significantly larger than, the EM field ~~strengths~~ strength needed for that terminal to receive the signal carried by the EM field; and wherein the primary EM field directed at one terminal induces a secondary

EM field at at least another terminal, and the primary and secondary EM fields at each terminal are added in phase to provide the composite EM field having a strength equal to the acceptable receive strength.

19. (cancelled).

20. (currently amended) ~~The system of claim 18,~~ A system comprising a transmitter operable to generate a composite electromagnetic (EM) field to carry a signal to at least two terminals by directing energy in a plurality of directions, the amount of energy directed in the direction of each of the terminals being a function of the locations and acceptable receive strengths of at least two of the terminals, wherein the direction is an azimuth direction, wherein an acceptable receive strength for a terminal comprises an EM field strength at least as large as, but not significantly larger than, the EM field strength needed for that terminal to receive the signal carried by the EM field, the system further comprising a processor coupled to the transmitter, the processor operable to:

determine for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat, the determining taking into account the strength, at the location of the one terminal, of EM fields previously determined for others of the terminals;

repeat the first determining until the EM fields determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength; and

determine the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined.

21. (original) The system of claim 20, wherein the processor being located in the transmitter.

22. (currently amended) The system of claim 20, wherein the system is a wireless communication system having at least one ~~MSC~~ mobile switching center (MSC), and the processor being located in the MSC.

23. (original) The system of claim 20, wherein:

each EM field being represented by one of a plurality of beam-patterns;

the first determining comprises determining for each one of the terminals a beam pattern that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat, the determining taking into account the EM field strength, at the location of the one terminal, of beam-patterns previously determined for others of the terminals; and

the repeating comprises repeating the first determining until the beam-patterns determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength.

24. (original) The system of claim 23, wherein:

the beam-patterns being voltage beam patterns;

the acceptable receive strength being an acceptable receive voltage; and

the adequate receive strength being an adequate receive voltage.

25. (original) The system of claim 23, wherein one of a plurality of weight vectors corresponds to each of the beam-patterns, and the second determining comprises:

determining a composite weight vector using the plurality of weight vectors, and a null-filling factor;

determining a composite beam-pattern using the composite weight vector, the composite beam-pattern representing the composite EM field; and

determining the amount of energy to be directed in the direction of each of the terminals based on the composite EM field.

26. (currently amended) ~~The system of claim 18,~~ A system comprising a transmitter operable to generate a composite electromagnetic (EM) field to carry a signal to at least two terminals by directing energy in a plurality of directions, the amount of energy directed in the direction of each of the terminals being a function of the locations and acceptable receive strengths of at least two of the terminals, wherein the direction is an azimuth direction, wherein an acceptable receive strength for a terminal comprises an EM field strength at least as large as, but not significantly larger than, the EM field strength needed for that terminal to

receive the signal carried by the EM field, the system further comprising a processor coupled to the transmitter, the processor operable to:

determine for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat if that one terminal was the only terminal that is needed to receive the signal;

determine a scaling factor for each EM field such that each EM field, associated with the at least two terminals, scaled by its scaling factor provides an EM field strength at the location of each of these at least two terminals that is substantially equal to its adequate receive strength;

scale each EM field, associated with the at least two terminals, by its scaling factor; and

determine the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined.

27. (original) The system of claim 18, further comprising an antenna operable to transmit the energy.

28. (original) The system of claim 27, wherein the antenna is a phased-array antenna.

29. (original) The system of claim 18, the system being a base station and the terminals being mobile terminals.

30. (original) The system of claim 18, the system being a wireless communication system and the terminals being mobile terminals.

31. (canceled)